

IN THE CLAIMS:

Claims 1-43, 45-47, 50, 51, 53, 59, 60, 65, 67, 73, 74, 76-78, 80, 81 and 84 were previously cancelled. Claims 44, 62-64, 70, 79, 82 and 83 are currently amended.

Claims 48, 49, 52, 54-58, 61, 66, 68, 69, 71, 72, 75 and 85 are carried forward, all as follows.

Claims 1-43 (Cancelled)

44. (Currently Amended) A method for controlling a temperature of a component of a printing press including the steps of:

providing said component of a printing press as one of a printing press roll and a printing press cylinder;

providing a fluid flow path for said printing press component whose temperature is to be controlled, said fluid flow path including a fluid inflow path to a fluid inlet to said printing press component and a fluid return path from a fluid outlet of said printing press component;

providing a temperature regulating fluid in said fluid flow path;

providing a ~~temperature-regulating fluid~~ feed-in point connected to said temperature regulating fluid in said fluid inflow path;

providing a temperature control source for said temperature regulating fluid and connecting said temperature control source to said feed-in point;

locating said ~~temperature-regulating fluid~~ feed-in point remote from said

fluid inlet to said printing press component whose temperature is to be controlled;

conducting said temperature regulating fluid to said printing press component along said fluid inflow path from said fluid feed-in point;

determining a first measured value of a temperature of said temperature regulating fluid at a first temperature measuring point;

locating said first temperature measuring point in said fluid inflow path remote from said fluid inlet to said printing press component;

determining a second measured value of said temperature of said temperature regulating fluid at a second temperature measuring point;

locating said second temperature measuring point in said fluid inflow path adjacent said fluid inlet to said printing press component;

locating said first temperature measuring point and said second temperature measuring point spaced apart from each other on said fluid inflow path;

providing a temperature regulating fluid control device;

providing an actuating member ~~a fluid control actuator~~ in said fluid flow path adjacent said ~~temperature-regulating fluid~~ feed-in point;

providing a first, inner control loop in said temperature regulating fluid control device;

providing a second, outer control loop in said temperature regulating fluid control device;

connecting said first, inner control loop and said second, outer control loop in a cascade-like manner;

connecting said temperature regulating fluid control device to said actuating member fluid-control-actuator;

supplying said first measured temperature of said temperature regulating fluid to said inner control loop;

supplying said second measured temperature of said temperature regulating fluid to said outer control loop;

providing a pre-regulation unit and supplying a running time constant of a running time of said temperature regulating fluid in said fluid flow path to said outer control loop;

forming an outer loop corrected command value in said outer control loop using said running time constant and said second measured value of said temperature control fluid at said second temperature measuring point;

supplying said outer loop corrected command value from said outer control loop to said inner control loop;

forming an inner loop corrected command value in said inner control loop using said outer loop corrected command value and said first measured value of said temperature control fluid at said first temperature measuring point;

providing said inner loop corrected command value formed in said temperature regulating fluid control device to said actuating member fluid-control-actuator; and

using said temperature regulating fluid control device for operating said actuating member fluid-control-actuator and controlling said temperature control source.

for controlling a temperature of said flow of said temperature regulating fluid in said fluid flow path.

45-47 (Cancelled)

48. (Previously Presented) The method of claim 44 further including providing a fluid drive mechanism in said fluid inflow path and determining said first measured temperature value after said feed-in point and before said fluid drive mechanism.

49. (Previously Presented) The method of claim 44 further including providing said second measured temperature measuring point along said fluid inflow path and located, in said running time of said fluid, further than half of a distance from said feed-in point to said component of a printing press.

50-51 (Cancelled)

52. (Previously Presented) The method of claim 44 further including using a theoretical command variable for forming said outer loop corrected command variable and forming said theoretical command variable in said pre-regulating member in respect to a heat flow value and taking expected heat and cooling losses in said fluid inflow path into consideration.

53. (Cancelled)

54. (Previously Presented) The method of claim 44 further including providing said outer loop corrected command variable for said outer control loop and said inner loop corrected command variable for said inner control loop, pre-regulating a specific excess amplitude by using a derivative member for forming said corrected command variables for said inner and outer control loops.

55. (Previously Presented) The method of claim 44 further including determining a number of revolutions of said printing press component and using said number of revolutions for pre-regulation for forming said corrected command variable for at least said inner control loop.

56. (Previously Presented) The method of claim 44 further including pre-regulating actuating member characteristics by using a rise limiter for forming said corrected command variable for at least said inner control loop.

57. (Previously Presented) The method of claim 44 further including providing a third temperature measuring point and a third control loop in said temperature regulating fluid control device, determining said temperature at said first, second and third temperature measuring points and supplying said temperatures to respectively one of said first, second and third control loops connected to each other in said cascade-like

manner.

58. (Previously Presented) The method of claim 57 further including determining said third temperature measured value as a temperature of a surface of said component of a printing press.

59-60 (Cancelled)

61. (Previously Presented) The method of claim 57 further including using a temperature of said fluid following its exit from said printing press component as said third measured value.

62. (Currently Amended) The method of claim 44 further including providing a temperature regulating fluid supply circuit as said temperature control source, circulating said temperature regulating fluid from said temperature regulating fluid supply circuit at least partially in said first fluid flow path, providing said actuating member ~~fluid-control-actuator~~ as a valve and controlling said temperature regulating fluid in said fluid flow path from said temperature regulating fluid supply circuit using said actuating member valve.

63. (Currently Amended) The method of claim ~~44~~ 62 further including providing a fluid heating and cooling unit in said ~~temperature regulating fluid~~ flow path as said

temperature control source and providing said actuating member as an output control
for said heating and cooling unit ~~supply circuit~~.

64. (Currently Amended) A device adapted to control the temperature of a component of a printing press comprising:

one of a printing press roll and a printing press cylinder usable as said component of a printing press and having a fluid inlet and a fluid outlet;

a fluid flow path for said printing press component whose temperature is to be controlled, said fluid flow path including a fluid inflow path to said fluid inlet, and a fluid return path from said fluid outlet;

a temperature regulating fluid in said fluid flow path;

a temperature control source for ~~regulating fluid supplied to said~~
temperature regulating fluid in said fluid flow path and being connected at a fluid feed-in point located remote from and before, in a direction of fluid flow, said fluid inlet in said fluid flow path;

a first temperature sensor positioned at a first location in said fluid flow path remote from said fluid inlet and intermediate, in said direction of fluid flow, said fluid feed-in point and said fluid inlet flow, said first temperature sensor adapted to provide a first temperature of said temperature regulating fluid;

a second temperature sensor positioned at a second location in said fluid flow path adjacent said fluid inlet, said second temperature sensor adapted to provide a second temperature of said temperature regulating fluid, said first and second

temperature sensors being spaced apart from each other in said fluid inflow path;

means conducting said temperature regulating fluid along said fluid flow path in said direction of fluid flow from said fluid feed-in point to and through said printing press component;

a temperature regulating fluid control device;

an actuating member ~~a fluid control actuator~~ in said fluid flow path adjacent said ~~temperature regulating fluid~~ feed-in point, said actuating member ~~fluid control actuator~~ being responsive to said temperature regulating fluid control device;

a first, inner control loop in said temperature regulating fluid control device;

a second, outer control loop in said temperature regulating fluid control device;

means connecting said first, inner control loop and said second, outer control loop with each other in a cascade-like manner;

a pre-regulating member in at least said second, outer control loop and adapted to form one of a running time constant and a replacement time constant, said running time constant being representative of a running time of said temperature regulating fluid flow path;

means to supply said second temperature to said outer control loop and to combine said second temperature with said running time constant to form an outer control loop corrected command value;

means to supply said outer control loop corrected command value to said

inner control loop;

means to supply said first temperature to said inner control loop, for use with said outer loop corrected command value, to form an inner control loop corrected value in said inner control loop; and

means supplying said inner control loop corrected value from said inner control loop of said temperature regulating fluid control device to said actuating member ~~fluid control actuator~~ to operate said actuating member ~~fluid control actuator~~ and to control said temperature control source to control a temperature ~~flow~~ of said temperature regulating fluid in said fluid flow path.

65. (Cancelled)

66. (Previously Presented) The device of claim 64 further including a pre-regulating member in at least said first, inner control loop and adapted to generate a theoretical command variable and which takes expected heat and cooling losses in said fluid flow path into consideration.

67. (Cancelled)

68. (Previously Presented) The device of claim 64 further including a derivative member for each of said at least first and second control loops and adapted to generate a specific amplitude variation during formation of each said command value.

69. (Previously Presented) The device of claim 64 further including a pre-regulating device in at least said first, inner control loop and adapted to take into consideration a number of revolutions of said printing press component in the formation of said inner control loop command value.

70. (Currently Amended) The device of claim 64 further including a rise limiter provided as a pre-regulating member for at least said first, inner control loop and adapted to include characteristics of said actuating member ~~fluid control-actuator~~ during formation of said inner control loop command value.

71. (Previously Presented) The device of claim 64 further including a third control loop in said temperature regulating fluid control device, said first, second and third control loops being connected to each other in said cascade-like manner, and a third temperature sensor.

72. (Previously Presented) The device of claim 64 further including PI regulators in said at least first and second control loops.

73-74 (Cancelled)

75. (Previously Presented) The device of claim 64 further including a fluid conveying

drive means in said fluid inflow path, said first temperature sensor being located downstream of said feed-in point and upstream of said drive means.

76-78 (Cancelled)

79. (Currently Amended) The device of claim 64 wherein said first temperature sensor is arranged downstream of said fluid feed-in point at a distance no greater than a two second running time of said fluid.

80-81 (Cancelled)

82. (Currently Amended) The device of claim 64 further including a pump in said fluid inflow path, said first temperature sensor being located between said fluid feed-in point and said pump.

83. (Currently Amended) The device of claim 64 further including a swirl chamber in said fluid inflow path between said fluid feed-in point and said first temperature sensor.

84. (Cancelled)

85. (Previously Presented) The device of claim 64 wherein said printing press is a dampening agent-free offset printing press.